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ABSTRACT

In accordance with the present invention, there is provided a novel type II restriction endonuclease, obtainable from *Corynebacterium striatum* M82B, hereinafter referred to as "CstMI", which endonuclease:

(1) recognizes the nucleotide sequence 5'-AAGGAG-3' in a double-stranded DNA molecule as shown below,

5'-AAGGAGN20↓-3'

3'-TTCCTCN18↑-5'

(wherein G represents guanine, C represents cytosine, A represents adenine, T represents thymine and N represents either G, C, A, or T);

- (2) cleaves said sequence at the phosphodiester bonds between the 20th and the 21th nucleotides 3' to the recognition sequence in the 5'-AAGGAG-3 strand of the DNA, and between the 18th and 19th nucleotides 5' to the recognition sequence in the complement stand, 5'-CTCCTT-3', to produce a 2 base 3' extension; and
- (3) possesses a second enzymatic activity that recognizes the same DNA sequence, 5'-AAGGAG-3', but modifies this sequence by the addition of a methyl group to prevent cleavage by the CstMI endonuclease activity.